

## MEMORANDUM

**TO:** Tommy Strowd, Director, Operations, Maintenance & Construction Division  
Terrie Bates, Director, Water Resources Division

**FROM:** Susan Sylvester, Chief, Water Control Operations Bureau  
Linda Lindstrom, Chief, Applied Science Bureau  
Dean Powell, Chief, Water Supply Bureau

**DATE:** November 6, 2013

**SUBJECT:** Operational Position Statement for the Week of November 5-11, 2013

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance (2008 LORS). The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's [Operational Planning](#) internet page.

### Recommendation to the USACE

This week the SFWMD recommends the USACE continue to follow the 2008 LORS release guidance to manage the Lake stage. The Lake stage receded about 0.2 feet during the past week to a stage of 15.10 feet, NGVD, and is approaching the lower third of the Low Subband.

The 5-November outcome from Part C of the 2008 LORS suggests "Up to Maximum Practicable to WCAs IF desirable or with minimum Everglades Impacts". Water levels in WCA-2A and WCA-3A are declining rapidly, but remain at or above the top of their respective regulation schedules. No Lake O regulatory releases to the WCAs are planned at this time. However with declining stages in northwestern WCA-3A, pending SFWMD recommendations for Lake O regulatory releases are being evaluated by the SFWMD. The recent dry weather pattern, dry weather and climate forecasts, and reduced Lake inflows are among the factors being considered.

The outcome from Part D of the release guidance is the same as last week: "S-79 up to 450 cfs, and S-80 up to 200 cfs". The reduction to these baseflow release rates occurred on 25-October.

For the St. Lucie Estuary, SFWMD estuary scientists reported that salinity is improving in the estuary and local sources (runoff and ground water) are sufficient to meet requirements for freshwater. Therefore releases of freshwater from Lake Okeechobee are not recommended.

For the Caloosahatchee Estuary, SFWMD estuary scientists reported salinity conditions in the lower estuary are improving and salinity is beginning to increase in the vicinity of Ft. Myers. They recommend continuing the 650 cfs baseflow release in order to allow salinity to continue to improve in the lower estuary while maintaining conditions conducive for SAV in the estuary upstream of Ft. Myers.

Further details are provided below. C-43 basin runoff has decreased and the SFWMD scientists suggest baseflow pulse releases should be delivered in patterns provided on page 3.

## Weather and Climate

Rainfall during the past week totaled 0.05 inches district wide (through 7 a.m. November 5<sup>th</sup>). Minor rain (0.03") fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall during the past 90 days totaled 13.38 inches (22% below-average). The Upper Kissimmee Basin received no rain during the past week, while near zero rain was reported for the Lower Kissimmee Basin. For the past 90 days the Upper Basin received about 83% of average rainfall, while the lower basin has received about 87% of average rainfall. October rainfall district-wide was reported to be 1.39 inches, which is the top ten driest Octobers on record. However, October 2013 was the 5<sup>th</sup> driest in the past 11 years.

The SFWMD short-term weather forecast for the next ten days is for below-average rainfall. The available (31-Oct) Climate Prediction Center (CPC) outlook for November shows equal chances of below-normal, normal and above-normal rainfall for central and southern Florida. The available (17-Oct) three-month windows through Jan-Feb-Mar all indicate increased chances of below-normal rainfall for central and southern Florida.

## Current Conditions and Operations

The November 4, 2013 Lake Okeechobee stage (reported by the USACE on November 5<sup>th</sup>) was 15.10 feet NGVD, 0.2 feet lower than last week. The Lake stage is 0.7 feet lower than it was a month ago and is about 0.6 feet lower than one year ago. The November 4<sup>th</sup> stage was 0.07 feet above the historical average for this date. The stage continues to recede and is in the lower third of the Low Sub-band of the 2008 Lake Okeechobee Regulation Schedule (2008 LORS).

Daily release rates averaged for the past week at the Lake structures are 600 cfs at S-77 and 260 cfs at S-308. S-308 releases were to maintain C-44 stages and were not discharged at S-80. S-80 remains closed. At the tidal structures, average daily discharges were about 640 cfs at S-79 and 0 cfs at S-80. S-80 was closed the morning of 21-Oct and S-79 remains open to release target baseflow rates of 650 cfs. C-43 basin runoff has decreased, but is evidently not enough to provide the baseflow discharge rate without opening S-77. The USACE decreased releases on 21-October to target an average flow rate of 650 cfs at S-79 and 0 cfs at S-80. These target rates are consistent with the 2008 LORS release guidance.

The water level in WCA-1 is receding and is below the bottom of Zone A. Lake O regulatory discharges to WCA-1 were discontinued in mid to late October when the USACE indicated regulatory releases to the WCAs are not needed to manage/regulate the Lake stage. The recent dry weather pattern, dry weather and climate forecasts, and reducing inflow from the Kissimmee River were among the factors considered. The WCA-1 stage is expected to continue to decline with the discontinuation of the inflows of treated Lake O water.

The ERTF Multi-species Management Strategy guidelines recommend a January 1 three-gauge average stage of 10.4 feet for WCA-3A and 13.0 feet at gauge 17 in WCA-2A. Currently, stages are already close to those targets. The U.S. Fish and Wildlife Service and the SFWMD recommend reducing discharges as the dry conditions persist to help WCAs attain the January 1, 2014 target stages for wildlife and ecosystem needs. The northern portions of WCA-3A (Site 62) are already declining at a rate of about 0.12 feet per week. The Southern area (along Tamiami Trail) is currently declining at a rate of about 0.18 feet per week but this area is meaningfully deeper. As required for protection of the Cape Sable Seaside Sparrow S12A, S343A, S343B, and S343 were closed November 1, 2013, which reduced the discharge from southern WCA-3A. The SFWMD is opening S-144, S145, and S146 to convey water from WCA-2A to WCA-2B to allow a larger reduction in the S11s discharges. A reduction in the S11s discharge will reduce the inflow to southern WCA-3A.

Irrigation demands are being supplied by Lake Okeechobee via S-351, S-352 and S-354. The releases have been relatively high to maintain canal stages. C-10A releases have been made to assist with dewatering the L-8 Flow Equalization Basin as well as supplying water needs of the City of WPB and the LWDD.

WCA outlet structures S-38, S-31 and S-151 are no longer needed for discharging excess water from the WCAs due to receding stages and the onset of the dry season. Special operations using S-13AW and the S-13 pump station were discontinued in late October, as have the special operations for the South Dade Conveyance System (SDCS). The SFWMD is no longer using the S-331 and S-332B, C & D pump stations to convey additional WCA-3A regulatory releases to the C-111 stormwater detention areas.

2008 LORS Release Guidance (Part C): Part C of the 2008 LORS suggests “Up to Maximum Practicable to WCAs IF desirable or with minimum Everglades Impacts”. Until this week such releases were not desirable due to relatively high stages in the WCAs. The WCA-2A regulation stage remains about 0.5 feet above its regulation schedule and is receding at the same rate as the schedule. The WCA-3A regulation stage (3 gage average) is near the top (elev. 10.5 feet, NGVD) of its new (ERTP) regulation schedule and receding. Northwestern WCA-3A stages were reported to be receding at faster than ecologically-recommended rates. However, Lake Okeechobee recession rates were also reported to be faster than ecologically-desirable rates. The USACE has not directed the SFWMD to initiate Lake O regulatory discharges to the WCAs to manage/regulate the Lake stage. The SFWMD is currently evaluating multiple issues pertaining to Lake O regulatory releases to the WCAs and is not recommending initiation of such releases this week. The recent dry weather pattern, forecasts and climate outlooks for more of the same, and reductions in flows into Lake O are among the factors considered.

The Tributary Hydrologic Condition (THC) remains in the normal classification this week. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. The Lake O Net Inflow remains in the dry classification. The Palmer Index remains well-within the normal classification (2008 LORS classifications) and is likely to remain above the -1.5 dry class threshold for the next several weeks.

2008 LORS Release Guidance (Part D): The 5-November outcome from Part D of the release guidance is “S-79 up to 450 cfs, and S-80 up to 200 cfs”.

For the St. Lucie Estuary, SFWMD estuary scientists reported that salinity is improving in the estuary and local sources (runoff and ground water) are sufficient to meet requirements for freshwater. Therefore releases of freshwater from Lake Okeechobee are not recommended.

For the Caloosahatchee Estuary, SFWMD estuary scientists reported salinity conditions in the lower estuary continue to improve and salinity is beginning to increase in the vicinity of Ft. Myers. They recommend following the Lake Okeechobee Regulation Schedule release guidance should allow salinity to continue to improve in the lower estuary while maintaining conditions conducive for SAV in the estuary upstream of Ft. Myers.

To mitigate potential stratification and phytoplankton accumulation in the water column, SFWMD scientists recommend the release from S-79 should be pulsed. Suggested pulse schedules are below.

| 10-day |      |      | 7-day |      |      |
|--------|------|------|-------|------|------|
| Day    | 450  | 650  | Day   | 450  | 650  |
| 1      | 1100 | 1300 | 1     | 1000 | 1450 |
| 2      | 1600 | 1900 | 2     | 1200 | 1700 |
| 3      | 850  | 1300 | 3     | 600  | 900  |
| 4      | 500  | 900  | 4     | 350  | 500  |
| 5      | 350  | 700  | 5     | 0    | 0    |
| 6      | 100  | 400  | 6     | 0    | 0    |
| 7      | 0    | 0    | 7     | 0    | 0    |
| 8      | 0    | 0    |       |      |      |
| 9      | 0    | 0    |       |      |      |
| 10     | 0    | 0    |       |      |      |

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance: This week the SFWMD’s Lake Okeechobee Adaptive Protocol (AP) release guidance flowchart is not applicable since the Lake Okeechobee stage is above the Baseflow Subband. Recent projections indicate the Lake O stage could recede into the Baseflow Subband within the next 2-3 months if dry conditions persist.

Note that the AP release guidance flowchart was designed primarily to guide release recommendations for circumstances when the Lake stage is within the Baseflow Subband or lower. The USACE’s Water Control Plan (WCP) for Lake Okeechobee and the EAA recognizes that the SFWMD may allocate water to the environment through its “Adaptive Protocols” or other SFWMD authorities. The WCP provides guidance as to releases, including Adaptive Protocol recommendations, in the various Lake schedule subbands.

There are two primary branches of the AP release guidance flowchart. The upper branch pertains to the 2008 LORS baseflow (aka, regulatory) releases while the lower branch pertains to environmental water supply releases. It is important to recognize that the AP was developed primarily to guide the water supply balance between Caloosahatchee Estuary, permitted water users, and other water supply purposes of the water control system. The water supply balance achieved by following the AP release guidance was evaluated by the Water Resources Advisory Commission and the SFWMD Governing Board, leading to board acceptance in September, 2010. Final Adaptive Protocols for Lake Okeechobee Operations (September 16, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at [www.sfwmd.gov](http://www.sfwmd.gov) under the Operational Planning topic.